

The Effects of Laparoscopic Cholecystectomy a Cross-Sectional Study

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Abstract: This paper aims to know the type of effects after laparoscopic cholecystectomy. The behaviour of surgical treatment of gallbladder diseases was determined by laparoscopic cholecystectomy. A cross-sectional study was conducted in different hospitals in Iraq, and all patients who were exposed to gallbladder disease were tributaries of surgical treatment from February 2019 to April 2020; and in this study, 110 were collected and divided into two groups (single incision laparoscopic cholecystectomy 50 patients) (conventional laparoscopic cholecystectomy 60 patients). The main risk factors for laparoscopy in our study were those related to the origin of ischemic heart disease with a total of 35 patients (31.8%) in both groups, heart valve disease and Arrhythmia in both groups for 22 patients with (20%). The Laparoscopic Cholecystectomy Visual Rating Scale has been relied on for the purpose of Data about pain and nausea-vomiting. The results showed a high severity for patients who underwent single incision laparoscopic cholecystectomy at all levels and a higher death rate for four patients compared with two patients for conventional laparoscopic cholecystectomy. We conclude from this study that conventional laparoscopic cholecystectomy is currently considered the gold standard for the purpose of obtaining fewer complications as conventional laparoscopic cholecystectomy, and it is the preferred method for doctors to laparoscopic cholecystectomy.

Keywords: Cholecystectomy, laparoscopic, CLC, SILC, VRS, pain.

INTRODUCTION

Cholecystectomy is the medical term for the removal of the gallbladder. This procedure is considered a safe operation with a very low complication rate [Everhart, J.E. *et al.*, 2009; Shaheen, N.J. *et al.*, 2006]. Cholecystectomy can be described as the only satisfactory method for treating symptomatic gallstone disease [Stinton, L.M. *et al.*, 2012; Carraro, A. *et al.*, 2011; Birkmeyer, J.D. *et al.*, 2004].

Laparoscopic cholecystectomy is a minimally invasive intervention performed on the abdomen to remove the gallbladder in the presence of diseases such as gallstones. This technique is considered the gold standard for solving this type of case and requires four minor incisions through the use of a cannula and a small camera [Shea, J.A. *et al.*, 1996; Kaushik, R, 2010; Duca, S. *et al.*, 2003]

Like any surgery, this surgical procedure can also cause some complications, although it is a fairly common intervention and rarely leads to serious complications. Complications include [Diamantis, T; Kholdebarin, R]: Bile duct injury has a slightly higher incidence than that of open surgery (0.3% vs. 0.5%) [Yang, T.F. *et al.*, 2014; Simopoulos, C. *et al.*, 2005]. This can cause bile leakage and abdominal pain shortly after the operation. Complications include collection or intraperitoneal abscess and are one of the most common complications of laparoscopic cholecystectomy.

Wound infections are rare and of little clinical relevance, and bleeding is a common complication of visualized cholecystectomy [Stanisic, V. *et al.*, 2014; Shamiyeh, A. *et al.*, 2004].

After the surgery, the patient may have problems such as nausea, vomiting, changes in blood pressure, dizziness, or headache. They are all secondary effects of the anesthesia that will resolve in the hours following surgery [Morgenstern, L. *et al.*, 1995; Richardson, M.C. *et al.*, 1996].

Sometimes, during laparoscopic surgery, it is necessary to switch to traditional open surgery. This may be necessary if, during laparoscopic surgery, there is a very high risk of infection of adjacent organs or tissues [Z'graggen, K. *et al.*, 1998].

MATERIAL AND METHOD

Patient Sample

A cross-sectional and prospective study of Iraqi patients, where 110 patients were collected from different hospitals in Iraq in the period from February 2019 to April 2020.

The data necessary for our study, such as age, gender, major risk factors for surgery, method of surgical intervention, urgent or elective, transient and postoperative complications, and mortality, are

taken from medical records. In addition, the results were analysed using IBM soft spss 22 programs.

Study Design

This study was designed by examining the effects and complications that were generated during the laparoscopic cholecystectomy procedure. In this study, 110 patients were collected and divided into two groups (single incision laparoscopic cholecystectomy 50 patients) (conventional laparoscopic cholecystectomy 60 patients).

Laparoscopic cholecystectomy is performed under general anesthesia, and the duration of laparoscopic cholecystectomy ranges from 20 minutes to 2 hours, depending on the complexity of the intervention, features of the anatomy, pathological process, and the experience of the surgeon.

Carbon dioxide is injected into the abdominal cavity. This is necessary to raise the abdominal wall and create space within the abdomen to operate the instruments. The pressure in the abdomen is maintained by an inflator, a device that pumps carbon dioxide into the abdomen and

maintains a constant gas pressure, usually 12 mmHg. . Then trocars are inserted - special tubes with valves that penetrate the abdominal wall and allow instruments to be inserted without losing gas. The laparoscope is inserted into the umbilical area.

The visual rating scale was used to classify pain intensity. The VRS contains a set of pain descriptive words that reflect the degree of pain increase, numbered sequentially from least to greatest: none (0), mild pain (1), moderate pain (2), severe pain (3), Very severe pain (4), unbearable pain (5).

Study Period

Cooperated with the relevant committees to obtain licenses for this study to collect information and demographic data Of laparoscopic cholecystectomy patients from February 2019 to April 2020.

AIM OF STUDY

This paper aims to know the effects after Single-incision versus conventional laparoscopic cholecystectomy.

RESULTS

Table 1: Demographic results of patients

Variable	Single Incision Laparoscopic Cholecystectomy, N=50	Conventional Laparoscopic Cholecystectomy, N=60
Age (N, %)		
30-39	19 (17.2)	25 (22.7)
40-49	10 (9.09)	20 (18.18)
50-60	11 (10)	15 (13.6)
sex		
Female	20 (18.18)	45 (40.9)
Male	30 (27.2)	15 (13.6)
BMI (Mean±SD)	29.1±3.9	28.8±2.88
Risk factor		
Ischemic heart disease	15	20
heart valve disease	10	12
Arrhythmia	11	11
arterial hypertension	8	8
bronchial asthma	5	5
chronic obstructive pulmonary disease	2	4
ASA score		
I	7	8
II	30	32
III	6	7
Duration of operation (Mean±SD)	33.2±13.9	41.2±13.4

Table 2: Surgical complications and mortality

Variable	Single Incision Laparoscopic Cholecystectomy, N=50	Conventional Laparoscopic Cholecystectomy, N=60
Bile leaking in the body.	9	6
Bleeding.	4	5
Complications from anesthesia.	4	5
Hernia.	6	8
Injury to the bile ducts, liver, or intestines.	5	5
Numbness in the surgical area.	3	3
Peritonitis (inflammation and infection in the abdomen).	2	3
mortality	4	2

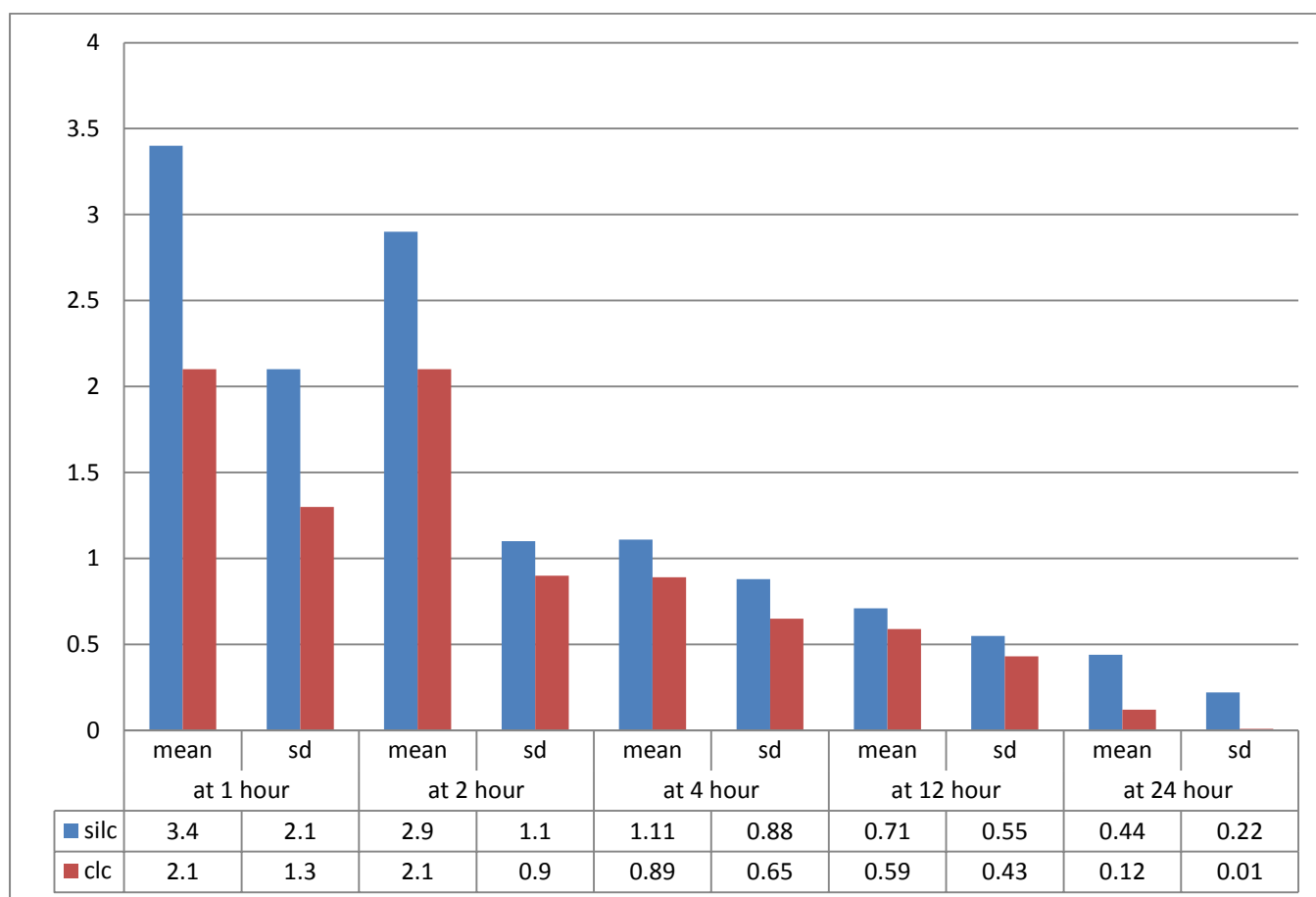


Figure 1: Final outcomes of patients after operation according to Abdominal pain score (VRS)

DISCUSSION

In this study, 110 patients were collected and distributed into two groups (60 patients with conventional laparoscopic cholecystectomy and 50 patients with single incision laparoscopic cholecystectomy).

The average age ranged between 30 to 60 years, and the study showed a high body mass index for ages ranging from 50 to 60 years.

In this study, a significant increase in male patients of group single incision laparoscopic cholecystectomy was observed for both groups, and they were the most significant risk factors with 27.2% as for patients who have undergone

conventional laparoscopic cholecystectomy were female percentage larger than the male with 40.9

The main risk factors for laparoscopy in our study were those related to the origin of ischemic heart disease with a total of 35 patients (31.8%) in both groups, heart valve disease and Arrhythmia in both groups for 22 patients with (20%)

The most common and serious surgical complication after surgery was Bile leaking in the body in the postoperative period, Hernia, six patients in the single incision laparoscopic cholecystectomy group and eight patients in the conventional laparoscopic cholecystectomy group.

As for the least frequent complications in this study, it was Peritonitis (inflammation and infection in the abdomen) for five patients in general.

The advantages of laparoscopic surgery are numerous, but its complications have also increased, and the most serious which is Bile leaking in the body.

The best treatment for Bile leaking in the body is preventing when an injury occurs; the surgeon must avoid complicating the problem and strive to achieve the best long-term results with the lowest prevalence and mortality, the best quality of life, and the lowest cost.

The Laparoscopic Cholecystectomy Visual Rating Scale has been relied on for the purpose of Data about pain and nausea-vomiting [Hobbs, M.S. et al., 2006]

The results showed a high severity for patients who underwent single incision laparoscopic cholecystectomy at all levels and a higher death rate for four patients compared to 2 patients for conventional laparoscopic cholecystectomy.

In other studies, similar to our current study of (Xin or C China 2014), where 400 patients were collected, the study revealed the prevalence of male patients compared to females (320, 80 patients), respectively.

The study revealed a statistically significant relationship with the increase in the frequency of complications to patients who have undergone single incision laparoscopic cholecystectomy

This proves the validity of our study that Conventional laparoscopic cholecystectomy is considered the gold standard for the low frequency of complications and deaths.

Most complications in this study that occur during or immediately after the operation are "small" and do not threaten life and health in total, about 5%, and often do not require any special treatment [Deziel, D.J. et al., 1993]

CONCLUSION

In this study, 110 were collected and divided into two groups (single incision laparoscopic cholecystectomy 50 patients) (conventional laparoscopic cholecystectomy 60 patients).

This study aimed to know the effects and complications on patients undergoing cholecystectomy, and we conclude from this study that the mortality rate is high in patients who underwent single incision laparoscopic cholecystectomy.

Despite the fact that laparoscopic cholecystectomy has a number of advantages, risks and complications still exist.

RECOMMENDATIONS

Conventional laparoscopic cholecystectomy is currently the gold standard for the purpose of obtaining fewer complications and mortality.

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